

STATION 1

Specimen A, B

1. Identify Specimen A

- A. Pumice
- B. Basalt
- C. Scoria
- D. Rhyolite

2. Identify Specimen B

- A. Pumice
- B. Basalt
- C. Scoria
- D. Rhyolite

3. Both specimens are

- A. Pegmatitic
- B. Porphyritic
- C. Aphanitic
- D. Phaneritic

4. Specimen B is unique because

- A. It is used in landscaping
- B. It is ground up into powder and used to make other substances
- C. It is less dense than water
- D. It is used in tiles

5. Phaneritic means

- A. The texture of a rock when it has bubbles
- B. The texture of a rock when it has small crystals and cooled quickly
- C. The texture of a rock when it has large crystals and cooled slowly
- D. The texture of a rock when it has glass like appearance

6. On the Mohs scale, these rocks would be a

- A. 1-2
- B. 5-6
- C. 9-10
- D. 13-15

STATION 2

Specimen C

7. Specimen C is

- A. Metaquartzite
- B. Rhyolite
- C. Marble
- D. Granite

8. The parent rock of this specimen can be

- A. Limestone
- B. Sandstone
- C. Shale
- D. Basalt

9. This specimen can be ground into a powder and added to

- A. Paper
- B. Paint
- C. Toothpaste
- D. All the above

10. This specimen C is

- A. Foliated
- B. Nonfoliated
- C. Phyllitic
- D. Migmatitic

11. This specimen will react with Hydrochloric acid because

- A. It has weak bonds
- B. It contains carbonates
- C. It is foliated
- D. It contains quartz

12. This specimen is formed through

- A. the gradual accumulation of sediments
- B. slow crystallization of magma
- C. rapid cooling of magma
- D. intense heat and pressure applied to its parent rock

STATION 3

Specimen D, E

Specimen E



13. These specimens are all

- A. Intrusive
- B. Aphanitic
- C. Felsic
- D. Pyroclastic

14. Specimen D is

- A. Diorite
- B. Olivine
- C. Granite
- D. Gneiss

15. Specimen E is

- A. Hornblende
- B. Diorite
- C. Rhyolite
- D. Gabbro

16. Specimen E is Plutonic This means the specimen

- A. Solidified from a melt point at great depth
- B. Has tightly packed mineral grains
- C. Has grains of roughly the same size
- D. All of the above

17. Specimen D is used

- A. To make cemetery markers
- B. As a major component of asphalt
- C. Ground up in soaps
- D. As arrowheads

STATION 4

Specimen F, G, H

18. These specimens are all members of which family?

- A. Calcite
- B. Fluorite
- C. Quartz
- D. Olivine

19. Specimen F is

- A. Smoky
- B. Milky
- C. Crystal
- D. Peridot

20. Specimen G is

- A. Citrine
- B. Fluorite
- C. Amethyst
- D. Calcite

21. Chemical structure & impurities can cause

- A. The differences in hardness
- B. The differences in the specific gravity
- C. The cleavage differences
- D. The color differences

22. These specimens can be used

- A. As flux for steel production
- B. In paints to thin them out
- C. To manufacture glass
- D. In toothpaste as an abrasive

23. This specimen is formed through

- A. the gradual accumulation of sediments
- B. slow crystallization of magma
- C. rapid cooling of magma
- D. intense heat and pressure applied to its parent rock

STATION 5

Specimen J



24. Specimen J is

- A. Sulphur
- B. Copper
- C. Galena
- D. Hematite

25. This specimen is

- A. A minor ore for sulfur & iron
- B. Mined in the Upper Peninsula
- C. Full of lead
- D. Paramagnetic

26. The crystal system of this specimen is

- A. Isometric
- B. Hexagonal
- C. Cubic
- D. Trigonal

27. Which of the following is NOT a property of this specimen?

- A. High hardness
- B. Electrically conductive
- C. Malleable
- D. Thermally conductive

28. Crystal habit associated with specimen J _____

29. Name of the mineral that is the ore of specimen J _____

STATION 6

Specimen K, L, M, N

30. Identify specimen N

31. How are K and L alike?

- A. They both are extrusive
- B. They both have a vitreous luster
- C. They both were formed underground
- D. They both had no air bubbles when they were formed

32. These specimens are

- A. Sedimentary
- B. Igneous
- C. Metamorphic
- D. Not the same classification

33. Which of these rocks cooled most slowly?

- A. L
- B. K
- C. M
- D. N

34. If specimen K, L and N is similar in composition then why is specimen L glassy

- A. Because it has water
- B. Because it is made of viscous lava
- C. crystals cannot grow before cooling of the magma
- D. it is made up of glass

35. Specimen L is formed through

- A. the gradual accumulation of sediments
- B. slow crystallization of magma
- C. rapid cooling of magma
- D. intense heat and pressure applied to its parent rock

STATION 7

Specimen O, P

Specimen P



36. A form of Specimen O has crystals, is found in Michigan, and it is called

- A. Petoskey stone
- B. Cement
- C. Pebble stone
- D. Pudding stone

37. Specimen P belongs to which family?

- A. Mica
- B. Quartz
- C. Gypsum
- D. Carbon

38. What is the A gravity of Specimen P?

- A. 23.2
- B. 26
- C. 2.65
- D. 31

39. Specimen P was used in the past for

- A. artistic sculptures
- B. building material
- C. landscaping
- D. arrowheads

40. Specimen O was formed by

- A. rushing water depositing pebbles, sand, and mud together then being compressed
- B. waves washing pebbles ashore, then being buried over time
- C. glaciers picking up pebbles and grinding them together to form larger rocks
- D. machines that mixed the pebbles with cement

STATION 8

Specimen Q, R

41. Specimen Q is

- A. Anthracite Coal
- B. Bituminous Coal
- C. Slate
- D. Shale

42. Specimen R is

- A. Igneous
- B. Sedimentary
- C. Metamorphic
- D. None of the above

43. Specimen Q is the result of

- A. Wind and temperature change
- B. Layers of sediment cemented together over time
- C. Molten rock cooling above ground
- D. Intense heat and pressure causing a rock to change

44. Specimen Q can contain

- A. Abrasives
- B. Oil
- C. Acids
- D. Lead

45. Specimen R is used for

- A. Pottery
- B. Pool tables
- C. Heating
- D. Paint

46. Specimen Q is a _____ rock while R is a _____ rock

- A. Igneous, sedimentary
- B. Sedimentary, igneous
- C. Sedimentary, metamorphic
- D. Igneous, metamorphic

STATION 9

Specimen S, T

47. Specimen S has a hardness of 4 This specimen is

- A. Calcite
- B. Rose Quartz
- C. Fluorite
- D. Halite

48. Specimen T has a hardness of 3 This specimen is

- A. Calcite
- B. Smoky Quartz
- C. Fluorite
- D. Halite

49. What do these specimens have in common?

- A. Streak
- B. Fracture
- C. Luster
- D. All of the above

50. Specimen S has a _____ luster

- A. metallic
- B. greasy
- C. vitreous
- D. silky

51. Which of the following is NOT true for specimen T

- A. Known for its dogtooth crystals
- B. Commonly fluorescent
- C. Salty taste
- D. A main component of chalk

52. What are secondary minerals?

STATION 10

Specimen U, V

53. Specimen U is

- A. Graphite
- B. Galena
- C. Hematite
- D. Talc

54. Specimen V

- A. Has the same chemical composition as diamond
- B. Tarnishes to an iridescent purple, blue & red
- C. Was used by Native Americans in mirrors
- D. Is the principle ore of iron

55. Which specimen has perfect cubic cleavage?

- A. Graphite
- B. Gypsum (satin spar)
- C. Galena
- D. Copper

56. Which specimen has a hardness of 1-2?

- A. Galena
- B. Graphite
- C. Hematite
- D. Feldspar

57. Which is the heaviest mineral?

- A. Graphite
- B. Quartz
- C. Granite
- D. Galena

58. Which mineral shows property of hopper crystal?

STATION 11

Specimen W, X

59. Specimen W is

- A. Bauxite
- B. Limestone
- C. Conglomerate
- D. Oolitic limestone

60. Specimen X is

- A. Sandstone
- B. bituminous coal
- C. Mica Schist
- D. Magnetite

61. Specimen W and X both are

- A. Sulfides
- B. oxides
- C. Borates
- D. Silicate

62. Hardness of Specimen W is

- A. 1-2
- B. 5-6
- C. 9-10
- D. 13-15
- E. None of the above

63. Specific gravity of specimen X

- A. 2.3-3.3
- B. 1.0-2.2
- C. 4.9 - 5.2
- D. 7.9-10.5
- E. None of the above

STATION 12

Specimen Y, Z

64. Which statement is true about specimen Y?

- A. It was formed from shells and calcite
- B. It will react to hydrochloric acid
- C. It is the parent rock of marble
- D. All of the above

65. Which statement is true about specimen Z?

- A. It has a specific gravity of 10
- B. It has a specific gravity of 2.58
- C. It has a specific gravity of 26.5
- D. It has a specific gravity of 43

66. Specific Gravity is

- A. The speed at which a mineral will fall to the earth
- B. How much a mineral weighs
- C. The ratio of air holes to solid material
- D. The density of a mineral

67. How many chemical elements make up over 98% of the earth's crust?

- A. 8
- B. 10
- C. 20
- D. 30

68. List the following minerals from softest to hardest: Quartz Chert, Bornite, Talc, Galena

- A. Talc, Galena, Bornite, Quartz Chert
- B. Quartz Chert, Bornite, Talc, Galena
- C. Talc, Bornite, Quartz Chert, Galena
- D. Galena, Quartz Chert, Talc, Bornite

69. What is type of twinning we see in fishtail Gypsum?

STATION 13

Specimen AA, AB

70. What is the Chemical formula of specimen AA

71. Specimen AA is also an important ore of this mineral because of its association, name this mineral

72. Specimen AA is used as

- A. An insulator
- B. As an acid
- C. An abrasive
- D. Ornamental jewelry

73. Specimen AB has a specific gravity rating of

- A. 255
- B. 526
- C. 89
- D. 21

74. Specimen AB has a streak that is

- A. Colorless
- B. Gray
- C. White
- D. Red

75. Michigan's State Stone is _____

STATION 14

Specimen AC, AD

Specimen AC



76. Minerals precipitate out of solution in the reverse order of their

- A. Density
- B. Hardness
- C. Solubility
- D. Viscosity

77. Specimen AC is?

- A. Kaolinite
- B. Gypsum
- C. Calcite
- D. Halite

78. Mineral AC starts to precipitate when

- A. If less than 50% of seawater is removed
- B. If 53-67% of seawater is removed
- C. If 64-77% of seawater is removed
- D. If 86-94% of seawater is removed

79. Specimen AD is

- A. Granite
- B. Quartzite
- C. Feldspar
- D. Sandstone

80. The parent rock of this specimen AD is

- A. Shale
- B. Granite
- C. Basalt
- D. Sandstone

81. Color variation of Opal is caused by?

STATION 15 Specimen AE, AF, AG, AH, AJ, AK, AL, AM, AN, AO

Identify Specimens	Identify Specimens
82. AE	87. AK
83. AF	88. AL
84. AG	89. AM
85. AH	90. AN
86. AJ	91. AO